GOVERNMENT OF INDIA
SPACE
LOK SABHA

UNSTARRED QUESTION NO:4427
ANSWERED ON:29.03.2017
ISRO-NASA Collaboration
Senguttuvan Shri Balasubramaniam

Will the Minister of SPACE be pleased to state:

(a) whether ISRO and NASA are undertaking a joint study of the global ecosystem and climate change and if so, the details thereof;
(b) whether ISRO and NASA have any proposal to jointly undertake the development of a synthetic aperture radar satellite to observe and monitor disturbances to the ecosystems, ice-sheet collapses and natural hazards and if so, the details thereof;
(c) whether the data gathered from this mission will help build climate resilience with the potential of saving human lives in the event of natural calamities and if so, the details thereof; and
(d) whether the Indian Institute of Tropical Meteorology is also working in tandem with National Oceanographic and Atmospheric Administration (NOAA) to develop high resolution seasonal and long-term climate forecasts and if so, the details thereof?

Answer

THE MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PG & PENSIONS AND IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH):

(a) No Madam.

(b) Yes Madam. ISRO and Jet Propulsion Laboratory (JPL)/ NASA are jointly working on the development of Dual Frequency (L & S band) Synthetic Aperture Radar Imaging Satellite named as NASA-ISRO Synthetic Aperture Radar (NISAR). The L-band SAR is being developed by JPL/ NASA, while ISRO is developing S-band SAR. The L & S band microwave data obtained from this satellite will be useful for variety of application, which include natural resources mapping & monitoring; estimating agricultural biomass over full duration of crop cycle; assessing soil moisture; monitoring of floods and oil slicks; coastal erosion, coastline changes & variation of winds in coastal waters; assessment of mangroves; surface deformation studies, ice sheet collapses & dynamics etc.

(c) The data obtained from NISAR mission is not meant for building climate resilience. However, the data acquired from this mission will be useful in developing certain applications, which include - (i) identifying crevasses in the glaciers hidden by fresh snow, where human movement takes place, (ii) identifying the snowpack parameters as an input in Avalanche forecasts, (iii) studying Glacial Lake Outburst Floods (GLOF) hazards, (iv) identifying inundated area due to floods/ cyclones. These applications could help in taking measures to minimize loss of human lives.

(d) Yes Madam. As per the information received, Indian Institute of Tropical Meteorology (IITM) under Ministry of Earth Sciences (MoES) has been working with National Oceanographic and Atmospheric Administration (NOAA) to develop high resolution seasonal and long-term climate forecasts. During 2010 to 2015, IITM and NOAA together developed high resolution Models for seasonal climate predictions of Indian Summer Monsoon and long term climate forecasts under a Memorandum of Understanding. Extension of this MoU till 2020 to further pursue such studies is under consideration.

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